

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend claims 1-6, 8-9, 12-18, 20, 24 and 25 and add new claims 26-28 as follows:

LISTING OF CLAIMS:

1. (Currently Amended) A semiconductor laser device comprising:
an optical fiber having an optical fiber grating;
a semiconductor laser diode having a plurality of layers including an active layer with a single quantum well, for emitting laser light; and
a coupling optical system for coupling the laser light emitted out of the semiconductor laser diode into the optical fiber wherein the optical fiber grating having a wavelength characteristic which maintains a constant emission wavelength of the laser diode.
2. (Currently Amended) The semiconductor laser device according to Claim 1, wherein the coupling optical system includes a narrow-band filter for adjusting an incident angle of the laser light emitted out of the semiconductor laser diode.
3. (Currently Amended) The semiconductor laser device according to Claim 1, wherein the optical fiber grating has a reflection bandwidth wider than or substantially equal to a 3dB bandwidth of a gain of the semiconductor laser diode or a spectrum full width at half maximum of the laser light of the semiconductor laser diode.

4. (Currently Amended) The semiconductor laser device according to Claim 1, wherein the coupling optical system has a narrow-band filter for adjusting an incident angle of the laser light emitted out of the ~~semiconductor~~ laser diode, and wherein the optical fiber grating has a reflection bandwidth wider than or substantially equal to a 3dB bandwidth of a gain of the ~~semiconductor~~ laser diode or a spectrum full width at half maximum of the laser light of the ~~semiconductor~~ laser diode.

5. (Currently Amended) The semiconductor laser device according to Claim 2, wherein the coupling optical system includes a collimator lens for collimating the laser light emitted out of the ~~semiconductor~~ laser diode and for outputting the collimated laser light to the narrow-band filter, and a condenser lens for focusing the laser light output from the narrow-band filter onto the optical fiber.

6. (Currently Amended) The semiconductor laser device according to Claim 1, wherein the ~~semiconductor~~ laser diode has an anti-reflection coating with a reflectivity of about 10 % or less, which is formed on an emitting exit face thereof from which the laser light is emitted.

7. (Original) The semiconductor laser device according to Claim 6, wherein the anti-reflection coating has a reflectivity lower than that of the optical fiber grating.

8. (Currently Amended) The semiconductor laser device according to Claim 1, wherein the ~~semiconductor laser~~ diode includes a layer having a refraction index lower than that of an optical guide layer ~~disposed outside the active layer with the single quantum well~~, said layer having such a thickness as to prevent itself from becoming a barrier that keeps an electric current from flowing through the ~~semiconductor laser~~ diode and said layer being disposed ~~outside~~ between the optical guide layer and the active layer with the single quantum well.

9. (Currently Amended) The semiconductor laser device according to Claim 1, wherein the active layer, a barrier layer, and a guide layer of the ~~semiconductor laser~~ diode are configured to have a distortion compensating structure.

10. (Original) The semiconductor laser device according to Claim 2, wherein the optical fiber grating has a reflection bandwidth of 5 nm or more.

11. (Original) The semiconductor laser device according to Claim 2, wherein the narrow-band filter includes an incident angle adjusting mechanism for adjusting the narrow-band filter so that the incident angle of the laser light incident on the narrow-band filter approaches 90 degrees with increasing ambient temperature.

12. (Currently Amended) The semiconductor laser device according to Claim 1, wherein the active layer with the single quantum well of the ~~semiconductor~~ laser diode has a thickness ranging from 10 nm to 25 nm.

13. (Currently Amended) A semiconductor laser device comprising:
an optical fiber having an optical fiber grating;
a ~~semiconductor~~ laser diode having a plurality of layers including an active layer with two or more quantum wells formed at intervals that are close enough to provide quantum coupling, for emitting laser light; and
a coupling optical system for coupling the laser light emitted out of the ~~semiconductor~~ laser diode into the optical fiber.
14. (Currently Amended) The semiconductor laser device according to Claim 13, wherein the coupling optical system includes a narrow-band filter for adjusting an incident angle of the laser light emitted out of the ~~semiconductor~~ laser diode.
15. (Currently Amended) The semiconductor laser device according to Claim 13, wherein the optical fiber grating has a reflection bandwidth wider than or substantially equal to a 3dB bandwidth of a gain of the ~~semiconductor~~ laser diode or a spectrum full width at half maximum of the laser light of the ~~semiconductor~~ laser diode.
16. (Currently Amended) The semiconductor laser device according to Claim 13, wherein the coupling optical system has a narrow-band filter for adjusting an incident angle of the laser light emitted out of the ~~semiconductor~~ laser diode, and wherein the optical fiber grating has a reflection bandwidth wider than or

substantially equal to a 3dB bandwidth of a gain of the ~~semiconductor~~ laser diode or a spectrum full width at half maximum of the laser light of the ~~semiconductor~~ laser diode.

17. (Currently Amended) The semiconductor laser device according to Claim 14, wherein the coupling optical system includes a collimator lens for collimating the laser light emitted out of the ~~semiconductor~~ laser diode and for outputting the collimated laser light to the narrow-band filter, and a condenser lens for focusing the laser light output from the narrow-band filter onto the optical fiber.

18. (Currently Amended) The semiconductor laser device according to Claim 13, wherein the semiconductor laser diode has an anti-reflection coating with a reflectivity of about 10 % or less, which is formed on an emitting exit face thereof from which the laser light is emitted.

19. (Original) The semiconductor laser device according to Claim 18, wherein the anti-reflection coating has a reflectivity lower than that of the optical fiber grating.

20. (Currently Amended) The semiconductor laser device according to Claim 13, wherein the active layer, a barrier layer, and a guide layer of the ~~semiconductor~~ laser diode are configured to have a distortion compensating structure.

21. (Original) The semiconductor laser device according to Claim 13, wherein the two or more quantum wells are formed at intervals of 8 nm or less.

22. (Original) The semiconductor laser device according to Claim 14, wherein the optical fiber grating has a reflection bandwidth of 5 nm or more.

23. (Original) The semiconductor laser device according to Claim 14, wherein the narrow-band filter includes an incident angle adjusting mechanism for adjusting the narrow-band filter so that the incident angle of the laser light incident on the narrow-band filter approaches 90 degrees with increasing ambient temperature.

24. (Currently Amended) An ~~optical fiber~~ amplifier for an optical fiber comprising:

a semiconductor laser device including an optical fiber having an optical fiber grating, a ~~semiconductor laser diode~~ having a plurality of layers including an active layer with a single quantum well, for emitting pumping light, ~~another laser device for emitting signal light~~ and a coupling optical system for coupling the pumping light emitted out of the ~~semiconductor laser diode~~ into the optical fiber;

a pumping light-signal light coupling means for coupling the pumping light emitted out of the semiconductor laser device to the signal light; and

a rare-earth-doped optical fiber that is pumped by the pumping light so as to amplify the signal light output from the pumping light-signal light coupling means.

25. (Currently Amended) An ~~optical fiber amplifier~~ for an optical fiber comprising:

a semiconductor laser device including an optical fiber having an optical fiber grating, a semiconductor laser diode having a plurality of layers including an active layer with two or more quantum wells formed at intervals that are close enough to provide quantum coupling, for emitting pumping light, another laser device for emitting signal light, and a coupling optical system for coupling the pumping light emitted out of the semiconductor laser diode into the optical fiber;

a pumping light-signal light coupling means for coupling the pumping light emitted out of the semiconductor laser device to the signal light; and

a rare-earth-doped optical fiber that is pumped by the pumping light so as to amplify the signal light output from the pumping light-signal light coupling means.

26. (New) The semiconductor laser device according to claim 13, wherein the optical fiber grating having a wavelength characteristic which maintains a constant emission wavelength of the laser diode.

27. (New) The amplifier according to claim 24, wherein the optical fiber grating having a wavelength characteristic which maintains a constant emission wavelength of the laser diode.

28. (New) The amplifier according to claim 25, wherein the optical fiber grating having a wavelength characteristic which maintains a constant emission wavelength of the laser diode.